INFORMATION FOR THE PUBLIC

Construction Technology & Management Programs
Ferris State University
July 2025

Basic Program Information

Program Philosophy, Mission, and Objectives

Program Outcomes

Admission Standards and Requirements

Assessment Results

Basic Program Information

Program's CIP Code: 52.20

	2024 - 2025	2023 - 2024	2022 - 2023	2021 - 2022	2020-2021	2019-2020
Total Students	285	271	281	270	271	282
AAS - BCTM (Building Construction Technology)	215	181	184	190	179	166
AAS - CETM/CETH (Civil Engineering Technology)	13	10	13	14	11	21
BS - CONM (Construction Management)	73	82	82	90	81	95
Certificates	0	0	2	2	0	0
Number of Degrees Conferred (Total)	129	88	104	111	115	108
CONM	58	39	66	43	48	58
BCTM (Associates)	64	47	32	64	64	42
CETM (Associates)	7	2	6	3	2	8
Certificates	0	0	0	1	1	0

Average Graduate Salary	$77,500	$77,300	$66,500	$64,500	$63,000	$60,000

Placement % at graduation (within 4 months)	100%	100%	100%	(100%)	66% (100%)	93% (100%)

Recent Employers of Our Students

CTMG Employers

Typical Types of Employers:	Job Titles At Hiring
Construction Management	Field Engineer Project Engineer Assistant Superintendent Assistant Project Manager Estimator Safety Coordinator VDC Engineer Testing Agent
General Contractors	
Construction Management and General Contracting	
Specialty Contractors	
Civil Contractors	
Residential	
Land Development	
Department of Transportation	
Road Commission	

STUDENT ORGANIZATIONS

Students have the opportunity to participate in many Registered Student Organizations (RSOs) on campus. 2 RSOs are dedicated to our program: Associated Construction Students and Sigma Lambda Chi. To learn more about these organizations, click below:

Student Organizations

PROGRAM PHILOSOPHY

The Program's teaching philosophy is in alignment with that of Ferris State University. Ferris State University was founded on the belief that all students should have the opportunity to obtain a college education that will allow them to pursue a career. In addition to providing solid technical training, our founder insisted that "no matter how technically trained they be, students should have a good working knowledge of English." (Today, these "English branches" that were offered would be considered "Liberal Arts") This has expanded to Ferris State University's belief that its students should have a well-rounded education to prepare them to be responsible citizens.

Our degree includes a solid technical education in construction topics, complemented by general education courses required of a Bachelor of Science degree program. Our teaching philosophy is that real world experience can help bring theory into practice for students. Our students "learn by doing." Thus the majority of our courses in the first two years of study have a lab component. This provides opportunity for students to practice what they learn in lecture. Lab activities are intended to mimic what occurs in industry in the real world. This strong technical knowledge is brought together in a student's second two years in the program where they learn how to manage that technical knowledge in the construction industry.

Ferris State University's focus is on teaching. Research is not a requirement, but dedication to teaching is paramount. Thus, a doctoral degree is not necessary for teaching in our Bachelor degree program, but real world experience that supplements a Master's degree is required. In our Program's case, all faculty have a minimum of 5 years full-time US construction industry experience.

PROGRAM MISSION

The mission of the Construction Technology and Management Program is to educate students in Building Construction Technology, Civil Engineering Technology – Highway focus, and Construction Management. This is accomplished through a broadly-based, world-class foundation of applicable technical and general education courses that remain relevant with input from an enthusiastic Industry Advisory Board which provides them with highly competitive skills and knowledge, construction-related employment opportunities at graduation, and the potential for advancement in their careers

The Program has two primary **Objectives** based on this mission:

- Serve the students.
- Serve the industry.

The Program is focused on three major themes- Transformative Educational Experience, Excellence and Opportunity, and Enrollment - to ensure it meets those objectives. Major actions include:

1. Maintain high-quality curriculum content by meeting discipline-appropriate accrediting association outcomes
2. Serve the employment criterion for the construction industry
3. Assist students in acquiring construction related summer employment and employment experiences
4. Develop professionalism in students
5. Ensure excellence in teaching through a well-staffed and most-qualified faculty
6. Provide experiential learning and teamwork applications

PROGRAM LEARNING OUTCOMES

The Program has one Learning Outcome: Meet all ACCE (American Council for Construction Education) Student Learning Outcomes (SLOs). Meeting the SLOs provides a consistency of what can be expected in a Bachelor of Science in Construction Management degree from an ACCE- accredited program so that students can compare different programs.

Per ACCE, a graduate shall be able to:

1. Create written communications appropriate to the construction discipline.
2. Create oral presentations appropriate to the construction discipline.
3. Create a construction project safety plan.
4. Create construction project cost estimates.
5. Create construction project schedules.
6. Analyze professional decisions based on ethical principles.
7. Analyze methods, materials, and equipment used to construct projects.
8. Apply electronic-based technology to manage the construction process.
9. Apply basic surveying techniques for construction layout and control.
10. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
11. Understand construction accounting and cost control.
12. Understand construction quality assurance and control.
13. Understand construction project control processes.
14. Understand the legal implications of contract, common, and regulatory law to manage a construction project.
15. Understand the basic principles of sustainable construction.
16. Understand the basic principles of structural behavior.
17. Understand the basic principles of HVAC, electrical and plumbing systems.

ADMISSIONS PROCESS AND STANDARDS

The admission standards of the Program for new students are:

- High School 2.75 GPA on a 4 point scale (2.50 – 2.74 with college approval)
- Minimum composite score of ACT 18/SAT 950, math is an SAT math score of 580 or an ACT math score of 19

Transfer student admission requirements:

- 2.0 College GPA (on a 4.0 scale)
- Minimum 12 credits, including English and Mathematics
- Placement into MATH 120 Trigonometry

Students are accepted into either the AAS Civil Engineering Technology Management degree or the AAS Building Construction Technology Management degree initially.

Students desiring the program but lacking either the GPA or test scores are admitted to the College's Pre-Engineering program (ENTE) while they complete any necessary remedial courses and meet the entry requirements. Once they have achieved this, they may be admitted to the Program.

The program checksheet for the AAS BCTM and AAS CETH degrees which lists the entry requirements and course requirements are available here:

https://catalog.ferris.edu/preview_program.php?catoid=3&poid=1489&returnto=237

Additionally, for entry to the 300 and 400 level CONM courses (which complete the Bachelor degree), the Program requires that students have an overall GPA of 2.5 and have completed their Associate's degree (AAS BCTM, AAS CETH, or AAS ARCH). That includes all 100 and 200 level CONM and all BCTM/CETM/ARCH courses required of the respective AAS degrees, Physics, (2) English classes, and potentially a Trigonometry course (unless the student had already completed higher level math with an Advanced Placement test or had placed into higher level math with their ACT/SAT test scores).

The program checksheet for the BS CONM degree which lists the entry requirements and course requirements is available here:

https://catalog.ferris.edu/preview_program.php?catoid=3&poid=1526&returnto=237

Student Scholarships & Awards

SCHOLARSHIPS

Our students are eligible for many different scholarships offered at Ferris State University. The program manages several scholarships that are dedicated to students enrolled in our program:

- Alton "Andy" and Evelyn Brayton Memorial Scholarship Endowment
- American Society of Professional Estimators Chapter 70 Endowed Scholarship
- American Subcontractors Association of Michigan Endowed Scholarship
- Barton Malow Foundation Scholarship
- Builders Exchange of Grand Rapids & Western Michigan Endowed Scholarship
- Building Bulldogs Scholarship Endowment
- Construction Association of Michigan Don Purdie Memorial Annual Scholarship
- Construction Management Industry Endowment Scholarship
- Duane E. Bremer Endowed Scholarship
- Gerace Construction Endowed Scholarship
- Grand Rapids Chapter of the Construction Specifications Institute “Art Nelson Memorial” Endowed Scholarship
- David L. Hamilton Endowed Scholarship
- Harry Larson Memorial Endowed Scholarship
- Pinnacle Construction Group Endowed Scholarship
- Phillip V and Sylvia M Frederickson Scholarship Endowment
- Pulte Family Foundation Endoweed Scholarship
- Rockford Construction Scholarship Endowment
- William "Bill" Scott Roh Superintendent Scholarship Endowment
- John Sebold Memorial Endowed Scholarship
- Robert G. Shilander Scholarship Endowment
- Taggart and Lisa Town Scholarship Endowment
- Wolgast Family Scholarship Endowment

Other outside scholarships that are not managed by the program, but actively seek our students include:

- AACE International Scholarship
- American Concrete Institute
- American Institute of Constructors
- Asphalt Pavement Association of Michigan
- Associated Builders and Contractors
- Associated General Contractors of America (multiple scholarships)
- Builders Foundation Scholarship
- CMAA
- Midwest Roofing Contractors Association
- MITA
- National Association of Women in Construction
- National Housing Endowment Scholarships
- Retail Contractors Association
- Washtenaw Contractors Association Annual Scholarship

Student Scholarships

AWARDS

Each Spring, the program hosts a luncheon to celebrate student awards, student involvement, and scholarships. Involvement with our different student groups is acknowledged as is participation on our different student competition teams. The Program also presents several awards including:

- Outstanding BCTM Student (2-year degree)
- Outstanding CETM Student (2-year degree)
- Outstanding CONM Student (4-year degree)
- AGC Award (Highest GPA, 4-year degree)
- ABC Award (exceptional student in the program)
- APAM Award (exceptional student, 4-year degree, civil engineering technology focus)
- MK Martin Award (student very involved in program and extra-curricular activities)
- Elzinga & Volkers – Construction Manager (exceptional student leader)
- Ellzinga & Volkers – Resource Manager (exceptional student, particularly in estimating)
- Elzinga & Volkers – Field Manager (exceptional student, particularly in on site activities)

Academic Quality Improvement Program

There are 3 components to our Academic Quality Improvement Plan:

Strategic Plan

Assessment Plan

Assessment Implementation Plan

CONSTRUCTION TECHNOLOGY & MANAGEMENT STRATEGIC PLAN

Mission:

The mission of the Construction Technology and Management Program is to educate students in Building Construction Technology, Civil Engineering Technology – Highway focus, and Construction Management through a broadly based foundation of applicable technical and general education courses that will provide them with highly competitive skills and knowledge, construction related employment opportunities at graduation, and the potential for advancement in their careers.

The Program has two primary Objectives based on this mission:

- Serve the students
- Serve the industry

The Program is focused on the following to ensure it meets those objectives:

1. Maintain a high quality curriculum content by meeting its accrediting body's Student Learning Outcomes
2. Maintain accreditation of the BS Construction Management by the American Council for Construction Education
3. Serve the employment criterion for the construction industry
4. Assist students in acquiring construction related summer employment and employment experiences
5. Assist graduates in finding construction related employment upon graduation
6. Develop professionalism in the students through multiple opportunities
7. Ensure excellence in teaching through a well-staffed and well-qualified faculty
8. Provide experiential learning and teamwork application opportunities

These fall into three major themes within the Program's Strategic Plan: Transformative Educational Experience, Excellence and Opportunities, and Enrollment

Within these themes are goals, as defined on the next page, that can be measured.

Theme #1 **Transformative Educational Experience**

Goal #1	Enhance the classroom experience with more “hands-on” labs
Goal #2	Increase student participation in industry activities and team competitions
Goal #3	Promote personal attention in the classroom and through advising
Goal #4	Increase faculty and equipment resources to enhance classroom experiences
Goal #5	Keep Program current with industry knowledge requirements

Theme #2 **Excellence and Opportunities**

Goal #1	Incorporate ACCE Student Learning Outcomes throughout curriculum
Goad #2	Maintain accreditation of Program
Goal #3	Attract and retain highly qualified faculty
Goal #4	Encourage faculty professional growth to remain current with industry and educational trends
Goal #5	Hold students to high academic standards

Theme #3 **Enrollment**

Goal #1	Maintain consistent enrollment between 270 and 300 students
Goal #2	Increase enrollment of females
Goal #3	Increase enrollment of minorities
Goal #4	Increase Program support resources to keep supplemental costs affordable for students
Goal #5	Increase scholarships available to younger students that are renewable

Theme #1 Transformative Educational Experience			
Goals	Potential Initiatives and Tactics	Quantitative Metrics	Other Types of Evidence
Enhance the classroom experience with more "hands-on" labs/activities	Revise curriculum to add more labs in the first two years of instruction - **DONE**	Curriculum revision	
Increase student participation in industry activities and team competition	Hold an internal competition to make it easier for students to participate - **MADE OUR SENIOR CAPSTONE COURSE A COMPETITION** Procure additional funding to reduce costs for participation - **Granger Construction Company is covering membership costs for volunteer hours**	# of student members in Associated Construction Students RSO	Student feedback in survey
Promote personal attention in the classroom and through advising	Advisor training for faculty (Program Advisors) - **ASSIGNED MENTORS FOR NEW FACULTY**		Student feedback in survey
Increase faculty and equipment resources to enhance classroom experiences	Implement a campaign to build an endowment to support classroom materials, equipment, site visits - **DONE CAMPAIGN IS 75% COMPLETE** Pursue grants from foundations	Identify potential donors Identify potential foundations for grants Track potential donor contact Track donations	
Keep Program current with industry knowledge requirements	IAB involvement with curriculum changes Review 2-3 courses at each IAB meeting for content **INDUSTRY INSIGHTS DAY**		IAB Meeting minutes to confirm discussions

Theme #2 – Excellence and Opportunities			
Goals	Potential Initiatives and Tactics	Quantitative Metrics	Other Types of Evidence
Incorporate ACCE Student Learning Outcomes throughout curriculum	Review all courses for content, revise course learning outcomes, and incorporate ACCE Student Learning Outcomes - **DONE**	Approved course outlines to include ACCE SLOs clearly identified	
Maintain accreditation of Program	Complete self-study report Host on-site visit of evaluation team	Receive re-accreditation notification	
Attract and retain highly qualified faculty	Provide market-competitive starting salaries **- A CHALLENGE** Pursue faculty with applicable teaching experience Continue with faculty overloads until appropriate faculty candidate is identified Develop a mentorship plan for new faculty - **DONE** Provide opportunities for professional development	Comparison of salaries with similar programs Review of resumes or CVs of prospective faculty Student Assessment of Instruction (SAI) results	Encouragement of faculty to seek out professional development opportunities Seek opportunities with IAB members
Encourage faculty professional growth to remain current with industry and educational trends	**Continue policy of qualified time off for professional growth** **Procure additional funding**	Track opportunities pursued by faculty	
Hold students to high standards of performance	Increase incoming math requirement Maintain 2.5 GPA required for entry to 300/40 level CONM classes Regular review of assessment results in TracDat	Any changes to admission requirements to be indicated on Program check sheets	

Theme #3 – Enrollment			
Goals	Potential Initiatives and Tactics	Quantitative Metrics	Other Types of Evidence
Maintain consistent enrollment between 270 and 300 students	Visits to career fairs at high schools - **DONE** Visits to career tech centers - **DONE** Attend Michigan Construction Career Days and other industry-sponsored events to recruit students - **DONE**	Fall and Spring 4th Day counts	
Increase enrollment of females	Create new video featuring current female students to explain why they chose construction management Develop promotional materials that are focused toward females	Track number of female students applying and actually enrolling	
Increase enrollment of minorities	Increase visits to urban school districts for career presentation Develop relationships with focused groups Explore developing relationships with minority contractors and associations to help identify potential students	Track number of minority students applying and actually enrolling	
Increase Program support resources to keep supplemental costs affordable for students	Endowment campaign noted in Theme #1	Same as in Theme #1	

ASSESSMENT PLAN

The Program has two primary Objectives: Serve our students and serve the industry. Both are assessable. The Program has focused on eight items to ensure it meets those objectives.

1. Maintain a high-quality curriculum content by meeting its accrediting body's **Student Learning Outcomes**
2. Maintain accreditation of the BS Construction Management by the American Council for Construction Education
3. Serve the employment criterion for the construction industry
4. Assist students in acquiring construction related summer employment and employment experiences
5. Assist graduates in finding construction related employment upon graduation
6. Develop professionalism in the students through multiple opportunities
7. Ensure excellence in teaching through a well-staffed and well-qualified faculty
8. Provide experiential learning and teamwork application opportunities

The Program Learning Outcome is straightforward: Meet all ACCE Student Learning Outcomes:

- SLO #1 Create written communication appropriate to the construction discipline
- SLO #2 Create oral presentation appropriate to the construction industry
- SLO #3 Create a construction safety plan
- SLO #4 Create construction project cost estimates
- SLO #5 Create construction project schedules
- SLO #6 Analyze professional decisions based on ethical principles
- SLO #7 Analyze methods, materials, and equipment used to construct a project
- SLO #8 Apply electronic-based technology to manage the construction process
- SLO #9 Apply basic surveying techniques for construction layout and control
- SLO #10 Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process
- SLO #11 Understand construction accounting and cost control
- SLO #12 Understand construction quality assurance and control
- SLO #13 Understand construction project control processes
- SLO #14 Understand the legal implications of contract, common, and regulatory law to manage a construction project
- SLO #15 Understand the basic principles of sustainable construction
- SLO #16 Understand the basic principles of structural behavior
- SLO #17 Understand the basic principles of HVAC, electrical, and piping systems

The Program's assessment is conducted via 2 methodologies:

- Programmatic evaluation
- Curricular evaluation

Programmatic evaluation uses surveys and other historical data to create and adjust the program's goals to meet our mission. These are typically indirect measures of assessment.

- Annual student feedback session with the IAB. The comments are reviewed and every attempt is made to address them within the academic year.
- A senior survey is completed each semester in the capstone course. These results are reviewed after the spring semester each year. The results from these surveys are charted to see if any trends emerge from semester to semester.
- Formal IAB and alumni surveys are completed every three years with the two staggered by three years from each other.
    - The IAB surveys allow the Program to determine how well it is meeting industry's needs and specific student skill sets. .
    - The alumni surveys are issued to alumni that have been in industry for 3 or 6 years to assess what they learned through the Program. These results are also charted tracking how alumni opinions change between 3 and 6 years after graduation.
- Review in the fall of summer employment undertaken by students – type of work, type of company, etc.
- Employment of our graduates is evaluated each year with data from the senior survey including:
    - Average starting salary
    - Number of offers
    - Job acceptance
    - Job acceptance title/responsibilities
    - Type of firm the graduate will be joining

Curricular evaluation evaluates individual course learning outcomes. The Program uses the TracDat system to formally track progress of course outcomes being evaluated as a direct assessment.

Each semester faculty load their direct assessment data into TracDat. They review their own courses for the results and immediately address any assessment values below the minimum threshold established by the Program.

The faculty unit meets throughout each semester to review 5-6 classes in depth. This allows each class to be reviewed by the entire unit every three years. This keeps it in sequence with the Grand Rapids cohort of students which is also on a three-year cycle. For the first cycle, the classes are selected following the order of the Program's check sheets. Subsequent cycles will have the 5-6 classes selected randomly. The faculty review: course objectives, content, delivery method (lecture or lecture/lab), classroom needs, equipment needs, software needs, how the course meets any ACCE SLOs.

At the end of the academic year, the faculty meet to review the senior survey (indirect assessment) and the overall curriculum.

Every fall, the junior and senior students meet with the IAB for a feedback session. The results are shared in the IAB meeting. Faculty discuss any issues and possible resolutions at the preceding faculty meeting.

Every year, the Program completes a comprehensive review of the entire process and updated with plans for improvement. This incorporates a review of SLOs in classes being introductory,